WHAT IS CLAIMED IS:

1. A method of treating neurodegeneration in a patient, comprising

identifying a patient at risk for neurodegeneration; and

orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

2. The method of claim 1, wherein the deacetylase inhibitor is represented by general formula I:

$$[Q---T---M---B---R---S]_n \qquad (I)$$

wherein,

S is selected from the group consisting of H, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons, $-OR_1$ or $-NR_1$,

R_1 is selected from the group consisting of H, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons, aryl, aralkyl, heterocyclyl, or heterocyclylalkyl, optionally substituted with from 1 to 3 substituents selected from halogen, amino, alkylamino, dialkylamino, pyrrolidino, piperidino, acylamino, cyano, aminomethyl, hydroxy, alkoxy, carboxyl, alkoxycarbonyl and nitro;

R is selected from the group consisting of -CO-X- or -X-CO-;

X is $N-R_2$ or is absent;

R_2 is selected from the group consisting of H, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons, aryl, acyl and aralkyl, heterocyclylalkyl such as 2,3 and 4-pyridylmethyl;

R_1 and R_2 may combine to form a heterocyclic ring;

B is selected from the group consisting of aryl, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons, heterocyclyl or is absent;

M is selected from the group consisting of saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons or aryl;

T is selected from the group consisting of urethane (-O-CO-NH- or -NH-CO-O-), amide (-NH-CO- or -CO-NH-), sulfonamide ($-SO_2$-NH- or -NH-SO_2-), urea (-NR_1-CO-NR_2-), where R1 and R2 are as defined before, imide (R3-CO-N-CO-R4), where R3 and R4 may combine to form an aryl such as 1,8-naphthyl moiety, or carbonyl (-CO-), or is absent;

Q is selected from the group consisting of H, OH, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons or aryl, substituted aryl, aralkyl, substituted aralkyl, heterocyclyl, substituted heterocyclyl, heterocyclylalkyl and substituted heterocyclylalkyl, where the substituents, from 1 to 3, are selected from the group consisting of halogen, amino, alkylamino, dialkylamino, pyrrolidino, piperidino, acylamino, cyano, aminomethyl, hydroxy, alkoxy, carboxyl, alkoxycarbonyl, nitro or absent; and

n is 1 or 2.

3. The method of claim 1, wherein the deacetylase inhibitor is selected from the group consisting of suberoylanilide hydroxamic acid (SAHA), butyrate, pyroxamide, depsipeptide, MS-275, and derivatives thereof.

4. The method of claim 3, wherein the deactylase inhibitor is SAHA.

5. A method of treating polyglutamine-expansion-related neurodegeneration in a patient, comprising

identifying a patient at risk for polyglutamine-expansion-related neurodegeneration; and

orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

6. The method of claim 5, wherein the deacetylase inhibitor is selected from the group consisting of SAHA, butyrate, pyroxamide, depsipeptide, MS-275, and derivatives thereof.

7. The method of claim 5, wherein the deacetylase inhibitor is SAHA.

8. A method of treating Huntington's disease in a patient, comprising

identifying a patient at risk for Huntington's disease; and

orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

9. The method of claim 8, wherein the deacetylase inhibitor is selected from the group consisting of SAHA, butyrate, pyroxamide, depsipeptide, MS-275, and derivatives thereof.

10. The method of claim 8, wherein the deacetylase inhibitor is SAHA.

11. A method of treating Parkinson's disease in a patient, comprising

identifying a patient at risk for Parkinson's disease; and

orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

12. The method of claim 11, wherein the deacetylase inhibitor is selected from the group consisting of SAHA, butyrate, pyroxamide, depsipeptide, MS-275, and derivatives thereof.

13. The method of claim 12, wherein the deacetylase inhibitor is SAHA.

14. A method of treating amyotrophic lateral sclerosis in a patient, comprising

identifying a patient at risk for amyotrophic lateral sclerosis; and

orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

15. The method of claim 14, wherein the deacetylase inhibitor is selected from the group consisting of SAHA, butyrate, pyroxamide, depsipeptide, MS-275, and derivatives thereof.

16. The method of claim 15, wherein the deacetylase inhibitor is SAHA.